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[Continued on next page]

(54) Title: ISOLATED HUMAN TRANSPORTER PROTEINS, NUCLEIC ACID MOLECULES ENCODING HUMAN TRANSPORTER PROTEINS, AND USES THEREOF

1 ATGCTCTCCA AGAAGAATAG AAAGCGGTTG AACCAAGGG CGGAAATGG
51 TTGGTCTCTG CCGCTCTGCT CTGCTCTCTG TGCGGAGGCA CGGGCTCTCT
101 CTGCTGGATC AGACTTGGCG GCAACCTCGG GCACTCTGAC GGTGACCAAC
151 TTATTAGAAA AGGATGACAA AATTCCTAAA ACATTCTGAG ATTCTCTTAT
201 TCATCTTGGA CTCACACATA TGAAGTCTGC AAATATAATG ATAGGTGAC
251 CAGTGTCTGT TACTAGTTTG AACGCAAGC AACAGTGTGA TACAGGCTGG
301 CTTATGCGAG GGTGTGAGCG CTGGTGAATG CATCCAGGTC CAGGCTCTTG
351 GAAAAATGTT GGTGTGAGCG CTGGTGAATG CATCCAGGTC CAGGCTCTTG
401 TGGGTCTCTG GCTACAGGCT GAGGAAATGG ATGTGGCACT CAGTGACAAA
451 GATATGGAAA TTAATGAAGA AGAAGTGAAT GGTGTGATTC TGAGAAATCT
501 AGATGGCAAG ATTGTTTTAC CAGGCAACTT TCTGTATTGT ACATTCTATG
551 GAGGACCGTA CAGCTGCAAA GTATTGCGAG TGAAGGGGCG AGATGGCATG
601 ATATTTGGAG GGCTCTCAGG TGACTCTGAC ACTGATGCGC AAAGAATGCG
651 CTTTGAACAG TCCAGCTGAT AAAGCAAGTG CCGTGAATGA TCTGTACAGC
701 TAAAGCAGGT CAGTGTGAGT AACGCAAGC AACAGTGTGA TACAGGCTGG
751 CTTATAAAGC CAATTGATGA CAGATTGACA AATAAGGCGA GTGATGTTT
801 GCTGATGTTT ACACAGAGCG CTGGAGATGG CAGTGGCACT ATGCTAGAGG
851 AAGTCAAGCG TCTTAAGTGT AATTTTGAAT CTGCGAGAGA AGGAAATGAG
901 CAACTTACTG AAGAAGAGAG ACTGCTAAGG TTCAGCATAG CAGCAAAAGT
951 CAATACTGAT ACTTTTTATT TTATTTCTTC AACCAACAAG GTCAATTTTA
1001 CAGAGATTGA TAAABAATGA AAGAGAGCAG ACAAGCAATT CAGATGAACT
1051 TATGACAGTA TACAGGATTT AAGTGAAGAG CTGAGAGGAA TTAGAGAAAT
1101 AATTGAAATG CCGCTCAAGC AGCCTGAAGT TTTCAGAGT TATGAAATTC
1151 CTGCGGCTAG AGGAGTGTTA CTTTATGCTG CTCCAGGTAC TGGAAAAACA
1201 ATGATGGCCA GGGCTGTTGC TAAATGAAGT GGAGGCTATG TTCTGTAAAT
1251 TAAATGGTCT GAATATATAA GCAATTTCTA TGCTGAGACT GAAGCAAGT
1301 TAAGTCAGAT ATTGCTGAAA GCACTCTTAC GACAGCCATC AATTATTTT
1351 ATTGATGAGC TGATGAGACT TTGTGCGAAA AGGAGGCGGG CCGAGAAATGA
1401 AGTGGAAAAA AGATGTTGCG CTTCAGCTTC AACAGTGTGA TACAGGCTGG
1451 GTTCAGAGAT AAGTGAAGCA CAGGTGTTGG TTCTTGGGCG CACAAATGCG
1501 CTTCAAGGCT TGATGCTGCG TCTGCGAAGA CTTGGGCGAT TTGATAAAGA
1551 GATGAGATTG GAGGTGCGCA ATGCTGAGGA CCGGCTAGAT ATTCTGCGA
1601 AACTGCTTGG AAGGGTACCG CATTTGCTCA CTGAGGCTGA GCTGCTGCGA
1651 CTGCGAATA GTGCTCATGG ATAGCTTGGG CAGAGCTTGA AAGTCTTGTG
1701 TAAATGAAGA GGTCTCTGTT CTTTGGGAGG AATCTGAAA AAACAGCTTA
1751 ACCTCTGCTA TGTGAGAGTG GCTTGAAGTG TGAAGATTAC TCTGAGATCT
1801 TCTTTGCGAT TCAATGATGA TATGCAAGCG ATGCGCATCG GCGAATAGC
1851 AATTGATGTC CCAAAATGAT CTTGCTGAGA TATAGGAGGA CTGGAAGATA
1901 TCAAGCTGAA GTTGAACAGC GCTGTGAATG GGGCTTAAA ACATGACAG
1951 TCTTTTATTC GAATGGGAT TCAAGCAACT AAAGGAGTTC TTCTCTATGG
2001 GCGACCTGGG TGCTCTAATA CAATGATAGC AAAGGCTTTG GCGAATGAGA
2051 GTGAGCTGAA TTTTCTAGCT ATAAAGGGCG CTGAATTAAT GAATAAATAT
2101 GTTGTGAAAT CTGAAGAGCG AGTTAGAGAG ACCTTCTGAA AAGCAAGAGC
2151 AGTGGGCGCT TCAATTAATT TCTTGTATGA ACTGATGAGC TTAGAGAAAT
2201 AAAGGCGGAG TCTTGTAGCT CTTGCGAATG TAGCGGATCG TGTTTGGCT
2251 CAGCTCTTAA CAGAAATGGA TGGGATTGAA CAGCTAAAGG ATGTGACCAT
2301 TTTGCGAGCT ACTAAGCGTC CAGATAGGAT AGACAAGGCT TTGATGGGCG
2351 CTGGAAGAA TGAATGAATC ATCTATGTGC CTTTACCGGA TCGAGCAACA
2401 AGAAGCGAAA TATTTAAGCT CGAGTTTCAAC TCCATGCGCT TCAGTAATGA
2451 AGTTGAGCTG GATGACCTCA TCTCTAAGAC CAGGCGATAC TCAGGAGCAG
2501 AGATTGTAAG TGTCTGAGGA GAGGAGAGCT TTGCGGCTCT GGAAGAGAG
2551 ATTGAGAGGA ATCTGATCAT GAAGAGAGAT TTAAGTENG CTTGAGAGC
2601 TGTGAGAGCT AGAATCTCTG AGTCAATTGAG AGTTTATTTT GAAGATTATC
2651 AAGAGAGAG TGGGCTGCAAT ACACCTTGA (SEQ ID NO:1)

(57) Abstract: The present invention provides amino acid sequences of peptides that are encoded by genes within the human genome, the transporter peptides of the present invention. The present invention specifically provides isolated peptide and nucleic acid molecules, methods of identifying orthologs and paralogs of the transporter peptides, and methods of identifying modulators of the transporter peptides.

The published application is used as the specification in this case.

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INTERNATIONAL SEARCH REPORT

International application No.

PCT/US03/06670

A. CLASSIFICATION OF SUBJECT MATTER

IPC(7) : C07K 1/00, 14/00, 16/00, 17/00; C07H 21/04; C12Q 1/68; A01K 67/00; C12P 21/06; C12N 1/20, 15/00,
 US CL : 530/350, 387.1; 536/23.5; 435/6, 69.1, 252.3, 320.1, 471; 800/8

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
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Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)
 MEDLINE

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	WO 01/54733 A1 (HUMAN GENOME SCIENCES, INC.) 2 August 2001 (2.08.01), especially the Abstract and pages 9-20 (see attached Sequence Comparisons A and B).	1-5, 8-19
A		20-23
Y	WO 01/54733 A1 (HUMAN GENOME SCIENCES, INC.) 02 August 2001 (02.08.01), especially pages 9-20. Database EST. Accession No. B16477. Adams, MD et al.	6, 7
X		4, 5
Y		8, 9

☐ Further documents are listed in the continuation of Box C.☐ See patent family annex.

* Special categories of cited documents:	"T"
"A" document defining the general state of the art which is not considered to be of particular relevance	later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
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"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)	"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art
"O" document referring to an oral disclosure, use, exhibition or other means	"&" document member of the same patent family
"P" document published prior to the international filing date but later than the priority date claimed	

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